

Work Order ID 137454

137454

Page 1

October 01, 2015 12:27:09 PM

Item ID: D350-636-016

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 10/29/2015 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: SA Date: 20151001 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4168-042	B

100

Document Control

0.00

DAS
6
9-89

100

DC

DOCUMENT CONTROL

Memo

0.00

Doc.Control -USB or Paperwork

record fwd angle: 89.6°

IX 11/3 NOV 03 2015
DAS
28
9-89

Photocopy blue file and type labels per PPP D350-636-016 CHG 005

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Page 2

Item ID: D350-636-016

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 10/29/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00

110

Skidtubes

Skidtubes

Memo

0.01

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside
AFT end per dwg D41683- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16",
then open to 0.500" using center drill then ream holes using 0.500" reamer. PIN
first side. Repeat process on second side.***ENSURE PROPER POSITIONING FWD BEND MUST BE FACING UP
WHEN DRILLING FIRST SIDE***4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade
fitting, section R-R and open to 0.500"

6- Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

7- Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201" (total of
one hole per side) as per dwg D4168.8- Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left
from bending as per QSI 004A/R Aluminum Rod batch: M132917

9- Grind welds flush as per Dwg D4168

BE 6-10-07

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
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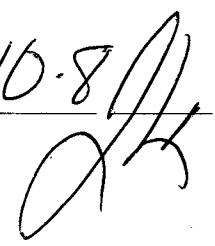
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC10- Inspect visual per QSI004- ground welds	0.00							DAS 38 9-89
120									
QC	Memo	0.00							
Quality Control									OCT 08 2015
130	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
130									
QC	Memo	0.00							
Quality Control									OCT 08 2015
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.00							
Hand Finishing									

1 15-10-8



DQA: _____ Date: _____

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Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
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Operation Description

Set Up/ Run Hours

Tool ID**Tool #****Plan
Code**

**Accept
Qty**

Reject
QtyReject
Number**Insp.
Stamp**

150

QC7-Inspect Chemical Conversion Coat

0.00

150

QC

Memo

0.00

Quality Control

**DAS
15
9-89**

12+1 of all 12/10/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				

Work Order ID 137454

October 01, 2015 12:27:10 PM

137454

Page 5

Item ID: D350-636-016

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Stop ***NS2***

Start Date: 10/1/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 10/29/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160

160

Skidtubes

Skidtubes

0.00

0.02

Memo

1-Open up holes using hole saw of Detail L and ground handling to 0.625"
(total of 8 holes per side)
as per dwg D4168.

2-Open up holes using hole saw of Detail K to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" using uni-bit (4 per side) and Run on wearplate
holes to .375" 4 per side

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168
(welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per OSI 015, let cure for 12hrs.

A/R Sikaflex-291

batch: 133136

exp. date: 10-16-2-12

ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & OSI004
(welding instructions on sheet 8)

A/R Aluminum Rod

batch: M132917

9- At section AP-AP drill out x-bolt spacer to 0.404"

15-10-8
OK

> BE15-10-13

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Work Order ID 137454

October 01, 2015 12:27:10 PM

137454

Page 6

Item ID: D350-636-016

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 10/29/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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10-Grind welds flush as per Dwg D4168

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D4168

12- C'bore section CH-CH. ADJUST TOOLING AS REQUIRED.

VERF BY: DD13- Deburr holes, ensure tube is free of all scratches before sending to
paint.***** FOR DELUXE SKIDTUBE IF APPLICABLE DRILL TOW RING
HOLE IN TUBE **********REF TO W/O BATCH: NA *****

170

QC10- Inspect visual per QSI004- ground welds 0.00

170

QC

Memo

0.00

Quality Control

DAS
38
9-89

OCT 15 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due		☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter		FAULT CATEGORY ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes		☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center		☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	
OTHER :											

Work Order ID 137454

October 01, 2015 12:27:10 PM

137454

Page 7

Item ID: D350-636-016

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 10/29/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Run Start

NR1

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Quality Control

VERIFY C'BOARD IS GOOD

DAS

38

9-89

OCT 15 2015

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.01

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1

15-10-15

15-10-15

DEL

200

0.00

200

SprayPaint

Memo

0.00

Spray Painting

1- PRIME AS PER DWG AND QSI 005 4.2
PRIMER PRC DESOTO 515X349 BATCH: 130992

2- PAINT WHITE AS PER DWG AND QSI 005 4.2
PAINT BATCH: 133325

DAS

41

9-89

15-10-15

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
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				OTHER : ☐							

Work Order ID 137454

137454

Page 9

October 01, 2015 12:27:10 PM

Item ID: D350-636-016 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.
 Start Date: 10/1/2015 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 10/29/2015 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC5- Inspect part completeness to step on W/O	0.00							38 9-89
240									
QC	Memo	0.00							
Quality Control									NOV 02 2015
250	Pick Kit	0.00							
250									
Packaging	Memo	0.00							
Packaging	If making a D350-636-216 pick kit will only requires: 1 X AN3C37A 1 X AN3C34A 1 X AN3C42A 2 X D3493-1								NOV 03 2015 DAS 6 9-89 DAS 28 9-89
260	QC4- 100% Inspect kits for completeness	0.00							
260									
QC	Memo	0.00							
Quality Control	*****ensure antiseize is on AN8C21A bolts*****								NOV 03 2015 DAS 28 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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OTHER :																																																																							

Work Order ID 137454

October 01, 2015 12:27:10 PM

137454

Page 10

Item ID: D350-636-016

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 10/29/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	Packaging	0.00							
270									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-636-016 Location : FG071								
280	QC21- Final Inspection - Work Order Release	0.00							
280									
QC	Memo	0.00							
Quality Control									

DAS
28
9-89
NOV 03 2015

NOV 03 2015

20151103

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY																																																																																																																											
Environment	☐	Design	☐	Doc/Data	☐	Equip/Tooling	☐	Handling/Pre	☐	Material	☐	Internal Transport	☐	Tribal Knowledge	☐	LOA	☐	Substation	☐	Past Expiry Date	☐	Misidentified	☐	No Re-verification	☐	Operator	☐	Offset/Setup	☐	Supplier	☐	Training	☐	Use for Testing	☐	Poor Information	☐	Rushing	☐	Product Improvement	☐	Process Improvement	☐	Manufacturing Process	☐	Past Due	☐	Pressure/Forced	☐	Bending	☐	Centre Not Concentric	☐	Cracks	☐	Crimp/Kink/Ripple/Wave	☐	Cuffs	☐	Crushing	☐	Heat Treat	☐	Wave/Twist in Tube	☐	Marks/Chatter	☐	Temperature/Cure	☐	Set-up	☐	BOM/Route	☐	Broken/Damage/Defect	☐	Inspection Incomplete/Unqualified	☐	Contamination	☐	Countersink	☐	Cut Too Short	☐	Instructions Incomplete/Unclear	☐	Drill Holes	☐	Power Loss/Surge	☐	Folio/Program	☐	Grain	☐	Weld	☐	Wrong Stock Pulled	☐	Out of Sequence	☐	Off-set	☐	Mislabeled	☐	Fit/Function	☐	Misaligned/off center	☐	Positioned Wrong	☐	Outside Dimensions	☐	Over/Under tolerance	☐	Part Incorrect	☐	Part Lost/Missing	☐	Part Moved	☐	Drawing	☐	Finish	☐	Misread	☐	Turning Sequence	☐
OTHER : _____																																																																																																																															

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Page 1

Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD verf:EC IPP Rev:B
11.04.14 ecn11-553 DD verf:EC IPP Rev:C 11.10.18 as
per NCR 11-906 DD verf:EC IPP REV:D 13.08.28 PER ECN13-
594 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3490-1		Manufactured	No			160	Each	98.0000	4	4			
D3490-1													
Cross Bolt Spacer													

Location	Loc Qty	Loc Code
LG	23	
133205	23	
LG001	75	
34019	75	

D3490-3		Manufactured	No			160	Each	27.0000	4	4			
D3490-3													
Cross Bolt Spacer													

Location	Loc Qty	Loc Code
LG	27	
130730	27	

AN3C34A		Purchased	No			230	Each	17.0000	1	1			
AN3C34A													
BOLT													

Location	Loc Qty	Loc Code
ST348	17	
m127044	1	
m131618	6	
m133077	10	

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

AN3C36A

Purchased

No

230

Each

Start Qty: 1.00
334.0000 4 4

Required Qty: 1.00

AN3C36A

Bolt

**

all 12/1/10/30

Location

Loc Qty

Loc Code

FG	47	
101261	4	
122204	2	
m131367	1	
m132169	40	
FP001	43	
m131856	43	
ST338a	240	<i>X4</i>
131651	80	
m129907	4	
m131856	4	
m132381	80	
m132522	72	
ST347	4	
m130874	4	

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

AN3C37A

Purchased

No

230

Each

477.0000

Start Qty: 1.00

1

1

Required Qty: 1.00

AN3C37A

BOLT

DAS
28
9-89

Location

Loc Qty

Loc Code

ST338a

476

131651

70

M128773

1

M129650

55

M131367

70

M131856

70

M132169

70

M132381

70

M132522

70

ST347

1

129687

1

DAS
6
9-89

AN3C42A

Purchased

No

230

Each

76.0000

1

1

AN3C42A

Bolt

DAS
28
9-89

Location

Loc Qty

Loc Code

FG

5

121103

5

ST338a

52

m130485

3

m131856

10

m132381

9

m132522

10

m132674

10

m133091

10

ST346

19

m131854

9

m131855

10

DAS
6
9-89

DAS
28
9-89

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

D3488-042

Manufactured No

230 Each

Start Qty: 1.00
1 1

Required Qty: 1.00

D3488-042

Blade Fitting RH

**

all 10/30

Location

Loc Qty

Loc Code

FP

8

131621

8

x1

FP001

8

129602

8

D3492-1

Manufactured No

230 Each

51.0000 8 8

D3492-1

Plug

**

all 10/25

Location

Loc Qty

Loc Code

FP001

51

131952

40

133498

11

B136687

x8

D3492-3

Manufactured No

230 Each

86.0000 8 8

D3492-3

Plug

**

all 10/25

Location

Loc Qty

Loc Code

FP001

86

125905

2

131036

1

131899

34

133470

49

x7

x6

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

D3873-1 Manufactured No

230 Each

Start Qty: 1.00
41.0000 7 7

Required Qty: 1.00

D3873-1

Bushing

**

all 13/10/13

Location

Loc Qty

Loc Code

FP001

19

126709

2

135402

17

ST063

22

129742

16

134885

6

B137632

v7

D4154-041 Manufactured No

230 Each

0.0000 1 1

D4154-041

Wearplate Assembly

**

B135750(14) all 15/11/07

D4170-1 Manufactured No

230 Each

77.0000 4 4

D4170-1

Bushing

**

BE15-10.13

Location

Loc Qty

Loc Code

LG001

77

107896

72

119639

5

4

D4171-1 Manufactured No

230 Each

22.0000 1 1

D4171-1

Bushing

**

all 15/11/07

Location

Loc Qty

Loc Code

ST096

22

129060

22

X1

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

MS21043-3

Purchased

No

230

Each

Start Qty: 1.00
840.0000 5 5

Required Qty: 1.00

MS21043-3

Nut

**

all 10/1/15

Location

Loc Qty

Loc Code

FG	80	
103691	80	
FP001	11	
m130673	11	
GA	159	
m130673	15	
m131677	144	
ST304	553	
m131340	180	
m133031	373	<i>x5</i>
ST308	37	
m132551	37	

NAS1149C0363R

Purchased

No

230

Each

1,139.000 9 9

NAS1149C0363R

Washer

**

all 10/1/15

Location

Loc Qty

Loc Code

FP001	60	
114742	60	<i>x9</i>
GA	506	
m133077	506	
ST260a	494	
m133077	494	
ST271	79	
m130673	20	
m132763	59	

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

NAS1515H3L

Purchased

No

230

Each

Start Qty: 1.00
4 4

Required Qty: 1.00

***NAS1515H3I ***

Washer

**

all 10/10/28

Location

Loc Qty

Loc Code

FG

40

102472

40

FP001

55

m127831

55

ST266

196

m127831

40

m130726

156

x4

NAS1611-010

Purchased

No

230

Each

463.0000 8 8

NAS1611-010

O-RING

**

all 10/10/28

Location

Loc Qty

Loc Code

FP001

463

m130770

303

m131618

160

x8

NAS1611-013

Purchased

No

230

Each

254.0000 8 8

NAS1611-013

O-Ring

**

all 10/10/28

Location

Loc Qty

Loc Code

FP001

254

m130758

254

x8

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

NAS1149D0863J

Purchased

No

250

Each

Start Qty: 1.00
2 2

Required Qty: 1.00

NAS1149D0863J

Washer

DAS
28
9-89

Location

Loc Qty

Loc Code

FP001

53

125484

53

ST260a

415

125268

315

125635

100

ST269

138

125268

138

D2744

Manufactured

No

110

Each

8.0000

1

1

D2744

Cap

Location

Loc Qty

Loc Code

LG001

8

128212

8

D2600-3-BENT-RH

Manufactured

No

110

Each

7.0000

1

1

D2600-3-BENT-RH

Extrusion Bent RH

Location

Loc Qty

Loc Code

LG002

7

130079

5

130175

2

D2743

Manufactured

No

160

Each

74.0000

1

8

D2743

Crossbolt Spacer

Location

Loc Qty

Loc Code

LG001

74

130731

74

DAS
6
9-89
NOV 03 2015
DAS
26
9-89

BE 15-10-07

BE 15-10-10

1

BE 15-10-13

8

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

D2739

Manufactured No

160

Each

4.0000

Start Qty: 1.00

Required Qty: 1.00

D2739

350 I Beam

**

15-10-8

Location

Loc Qty

Loc Code

LG002

4

136279

4

ALS4-1032-225

AELS8-1032-225

Purchased

No

230

Each

687.0000

4

4

**

12/10/28

AI S4-1032-225

Rivnut

Location

Loc Qty

Loc Code

FG

120

M127028

120

FP001

136

M131582

136

st549

431

M131582

431

X4

AN8C35A

Purchased

No

230

Each

73.0000

1

1

**

12/11/02

AN8C35A

Bolt

Location

Loc Qty

Loc Code

FG

5

121275

5

FP001

68

m131947

13

m132169

10

m132381

15

m132522

15

m132674

15

X1

Picklist Print

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

AN6C44A

Purchased

No

230

Each

617.0000

Start Qty: 1.00

4

4

Required Qty: 1.00

AN6C44A

Bolt

**

lll 10/10/28

Location

Loc Qty

Loc Code

FP001

139

131649

100

m131367

1

m132169

38

ST273A

413

m130863

13

m131151

50

m132381

52

m132522

52

m132556

246

ST332

11

m130863

11

ST333

54

m130863

4

m131946

50

MS21083C8

Purchased

No

230

Each

49.0000

1

1

MS21083C8

Nut

**

lll 10/11/02

Location

Loc Qty

Loc Code

ST300

49

m132067

2

m133016

27

m133134

20

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

D3631-1

Manufactured No

230

Each

Start Qty: 1.00
210.0000 8 8

Required Qty: 1.00

D3631-1

Washer

ll 10/10/28

Location

Loc Qty

Loc Code

FP001

210

128320

6

131026

4

135951

100

136593

100

x8

NAS1149C0332R

Purchased

No

230

Each

5,993.000 4 4

NAS1149C0332R

WASHER

ll 10/10/28

Location

Loc Qty

Loc Code

FP001

1019

m131618

15

m132930

1004

FP01

2000

m133284

2000

x4

ST271

2974

m133284

2974

D2745

Manufactured

No

230

Each

53.0000 8 8

D2745

Bushing

ll 10/10/28

Location

Loc Qty

Loc Code

FP001

53

129584

7

131049

46

x8

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

NAS1149C0832R

Purchased

No

230

Each

Start Qty: 1.00
103.0000 1 1

Required Qty: 1.00

NAS1149C0832R

Washer

**

lll 10/10/16 2

Location

Loc Qty

Loc Code

ST271

103

m125807

103

AN3C6A

Purchased

No

230

Each

107.0000 4 4

AN3C6A

Bolt

**

lll 10/10/29

Location

Loc Qty

Loc Code

CA

39

m128704

39

FG

10

122416

10

ST338a

54

m128769

38

m133077

16

ST349

4

m132767

4

MS21043-6

Purchased

No

230

Each

75.0000 4 4

MS21043-6

NUT

**

lll 10/10/25

Location

Loc Qty

Loc Code

FG

20

103693

20

FP001

17

131618

2

m130325

2

m133077

13

ST304

38

m132164

13

m133234

25

X4

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

D3493-1 Manufactured No 250 Each 37.0000 Start Qty: 1.00 Required Qty: 1.00

D3493-1

Washer

DAS
28
9-89

Location	Loc Qty	Loc Code
FG	10	
97201	10	
ST039	27	
128755	27	

**

DAS
6
9-89

DAS
28
9-89

MS21083C8

Purchased No

250 Each 49.0000 2 2

MS21083C8

Nut

DAS
28
9-89

Location	Loc Qty	Loc Code
ST300	49	
m132067	2	
m133016	27	
m133134	20	

**

DAS
6
9-89

DAS
28
9-89

AN8C21A

Purchased No

250 Each 72.0000 2 2

AN8C21A

Bolt

DAS
28
9-89

Location	Loc Qty	Loc Code
FG	4	
123966	2	
m132169	2	
ST273A	20	
m132381	20	
ST312A	41	
m132542	11	
m132674	30	
ST332	7	
m131100	1	
m132169	2	
m132522	4	

**

DAS
6
9-89

DAS
28
9-89

NOV 03 2015

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Work Order ID: 137454

137454

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.

Start Date: 10/1/2015

Required Date: 10/29/2015

D2741

Manufactured No

250

Each

35.0000

Start Qty: 1.00

Required Qty: 1.00

D2741

Replacement Blade

**

BS909

DAS

26
9-89

DAS
C
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

FG	10	
131616	10	
FP001	1	
132981	1	
ST538	24	
131616	6	
132981	18	

NOV 03 2015

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C06A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149C0363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149C0332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149C0832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

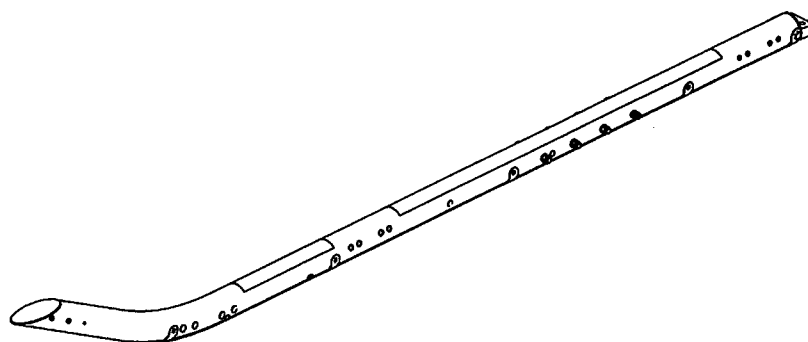
- MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
B OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- WELD PER DART QSI 004
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

20151001

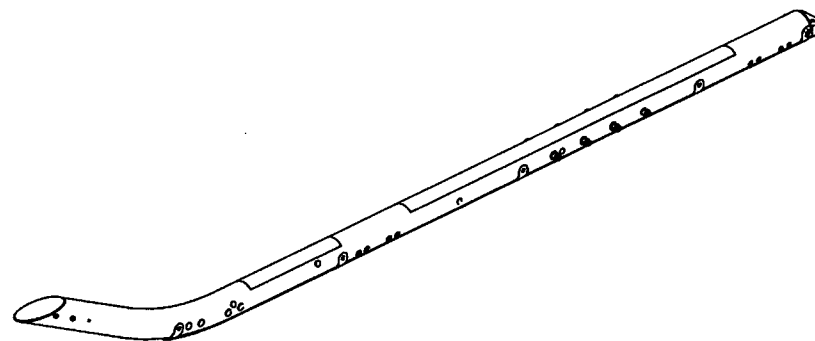
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B	ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZI D-1-41-81-81-7); UPDATED FINISH OPTIONS. REASON: PAR13-276 AND NCR13-2757	MB	13.07.11
A	NEW ISSUE	SC	10.08.09
REV.	DESCRIPTION	BY	DATE
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CHECKED	JP		
MFG. APPR.	JP		
APPROVED	JP		
DE APPR.	JP		
DATE	13.07.11		

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DRAWING NO. D4168	REV. B
TITLE 350 SKIDTUBE ASSEMBLY	SHEET 1 OF 11
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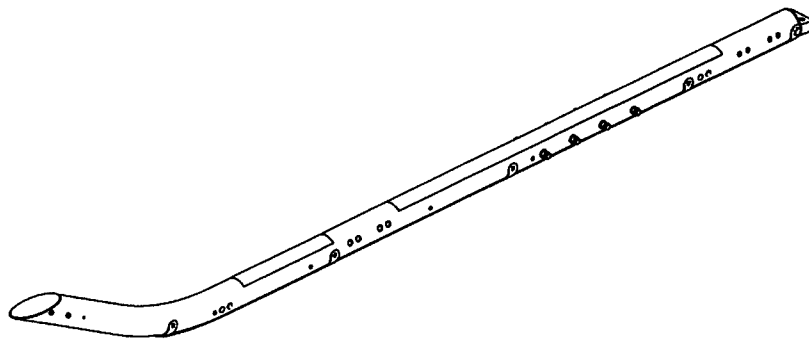
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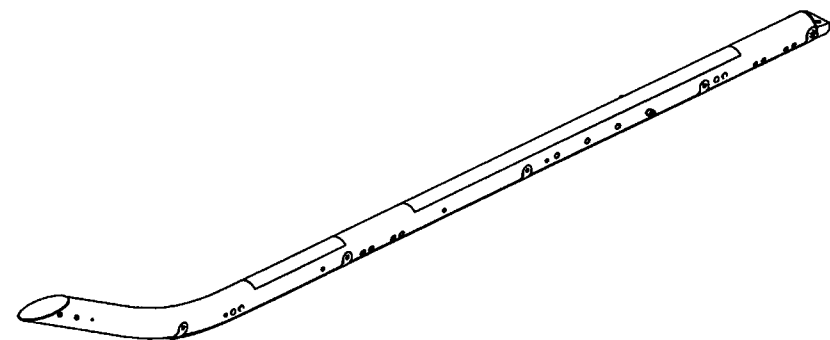
D4168-042 350 SKIDTUBE ASSEMBLY, RH

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D4168-043 350 SKIDTUBE ASSEMBLY, LH

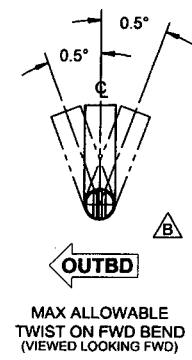
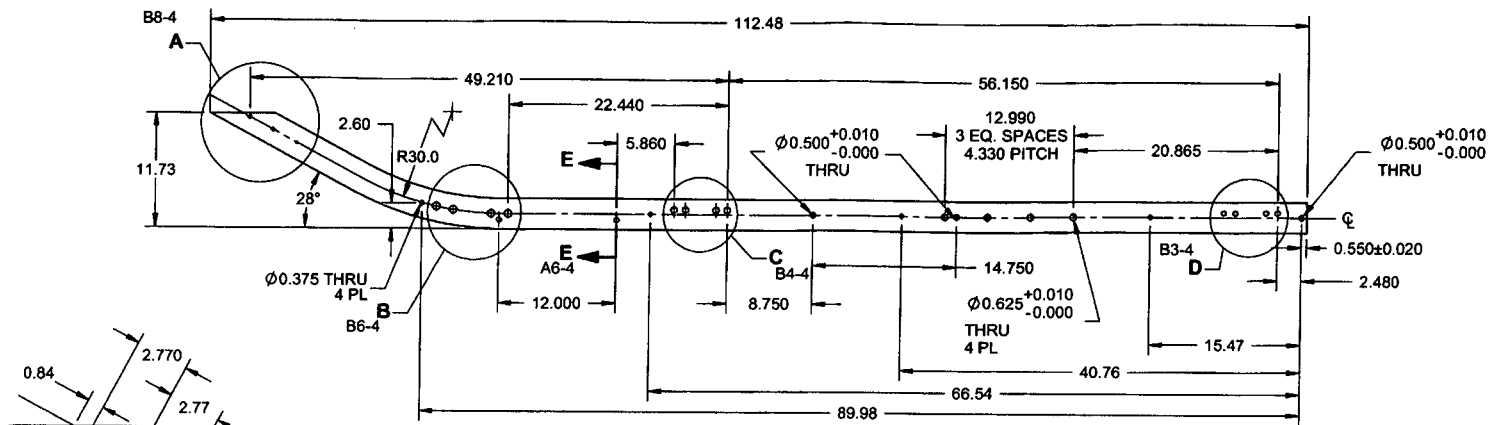


D4168-044 350 SKIDTUBE ASSEMBLY, RH

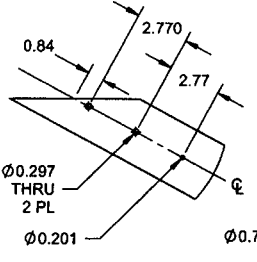
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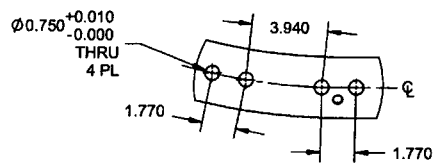
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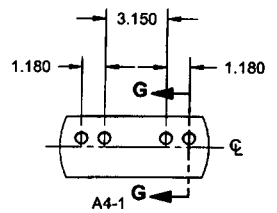
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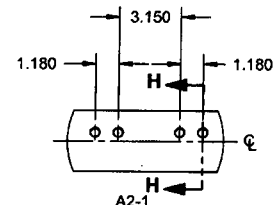
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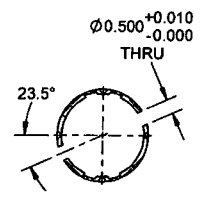
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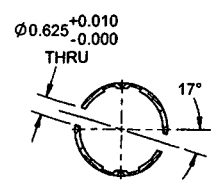
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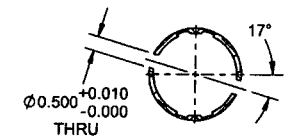
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SECTION E-E
SCALE 3X, 2 PL



SECTION G-G
SCALE 3X, 4 PL



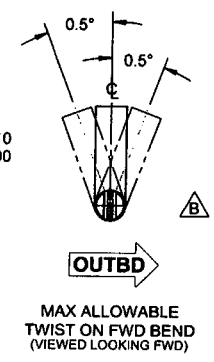
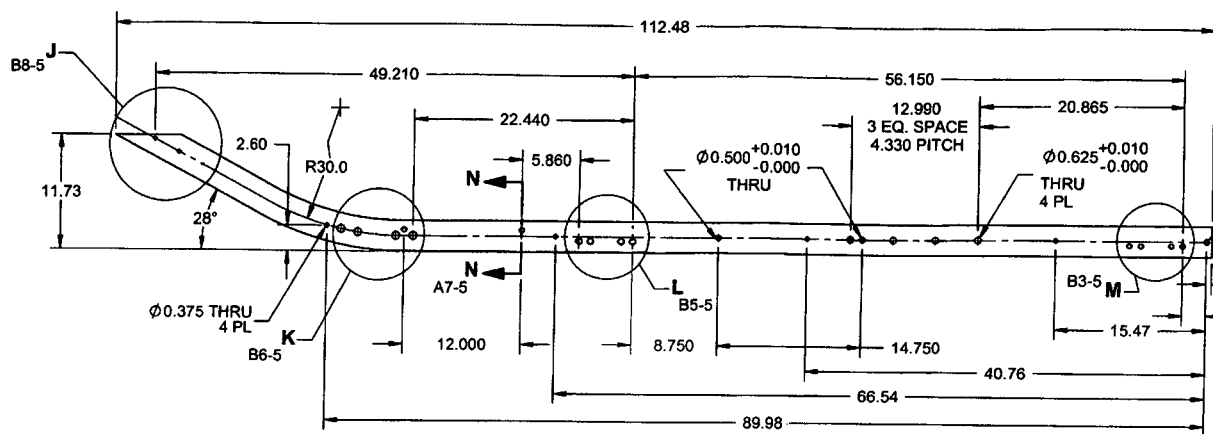
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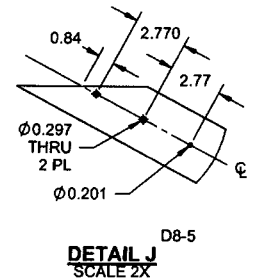
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REV. A
SHEET 4 OF 11
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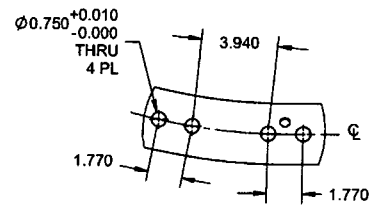
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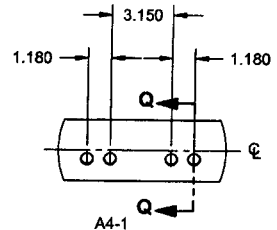
D4168-2 RH SKIDTUBE



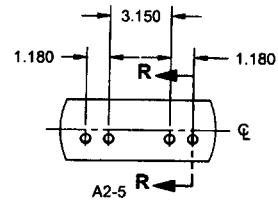
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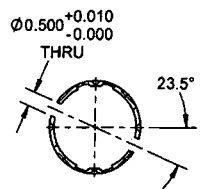
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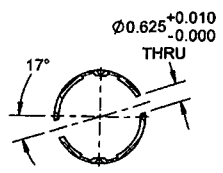
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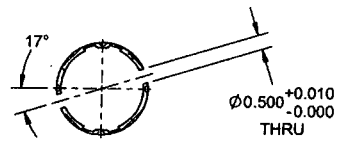
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SECTION N-N
SCALE 3X, 2 PL



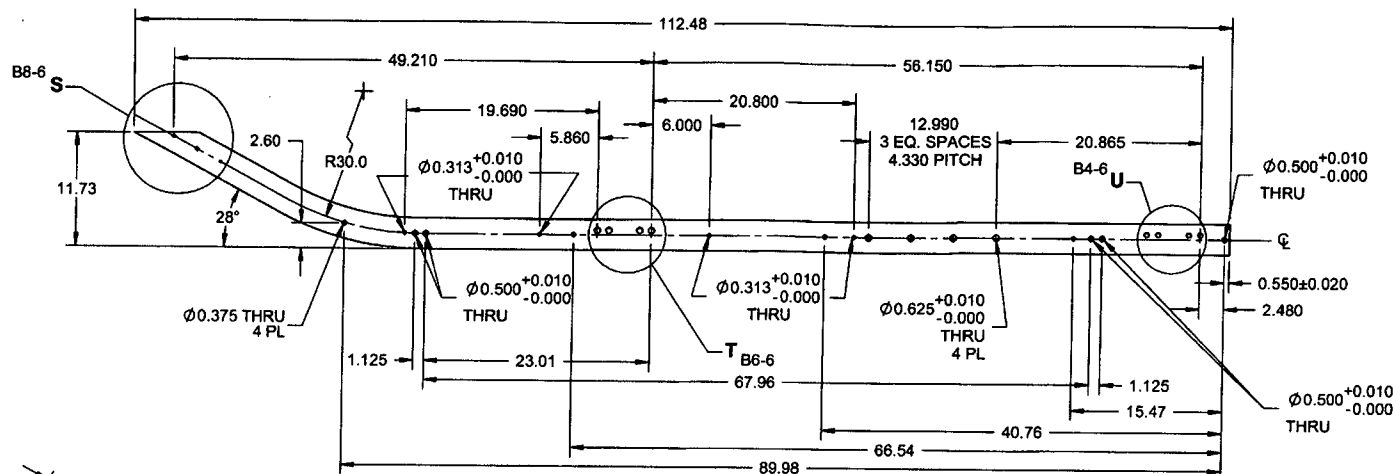
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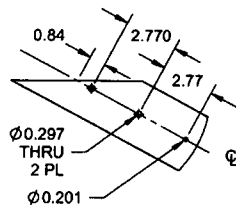
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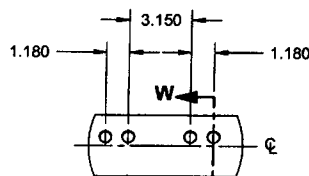
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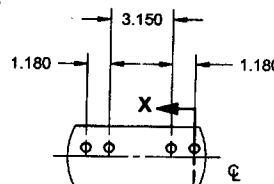
D4168-3 LH SKIDTUBE



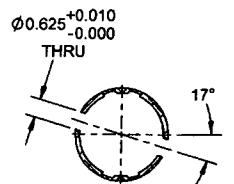
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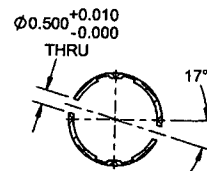
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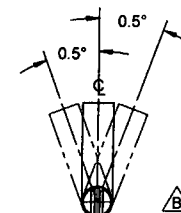
DETAIL U
SCALE 2X



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL



MAX ALLOWABLE
TWIST ON FWD BEND
(VIEWED LOOKING FWD)

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2013-08-13

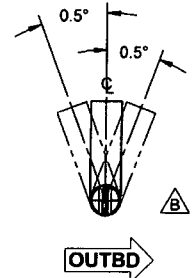
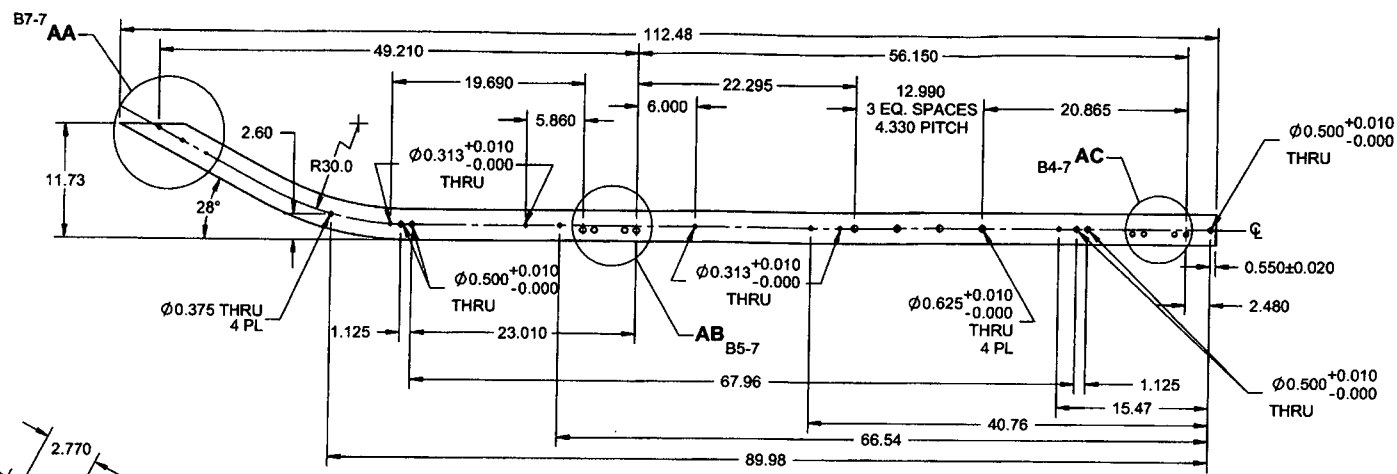
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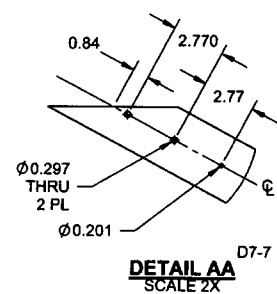
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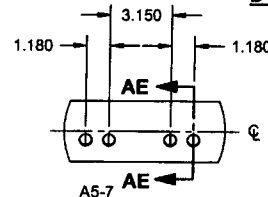
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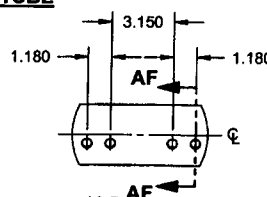
MAX ALLOWABLE
TWIST ON FWD BEND
(VIEWED LOOKING FWD)



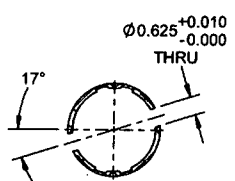
DETAIL AA
D7-7
SCALE 2X



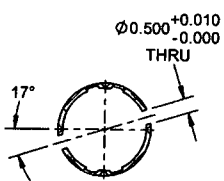
DETAIL AB
C4-7
SCALE 2X



DETAIL AC
D3-7
SCALE 2X



SECTION AE-AE
B6-7
SCALE 3X, 4 PL

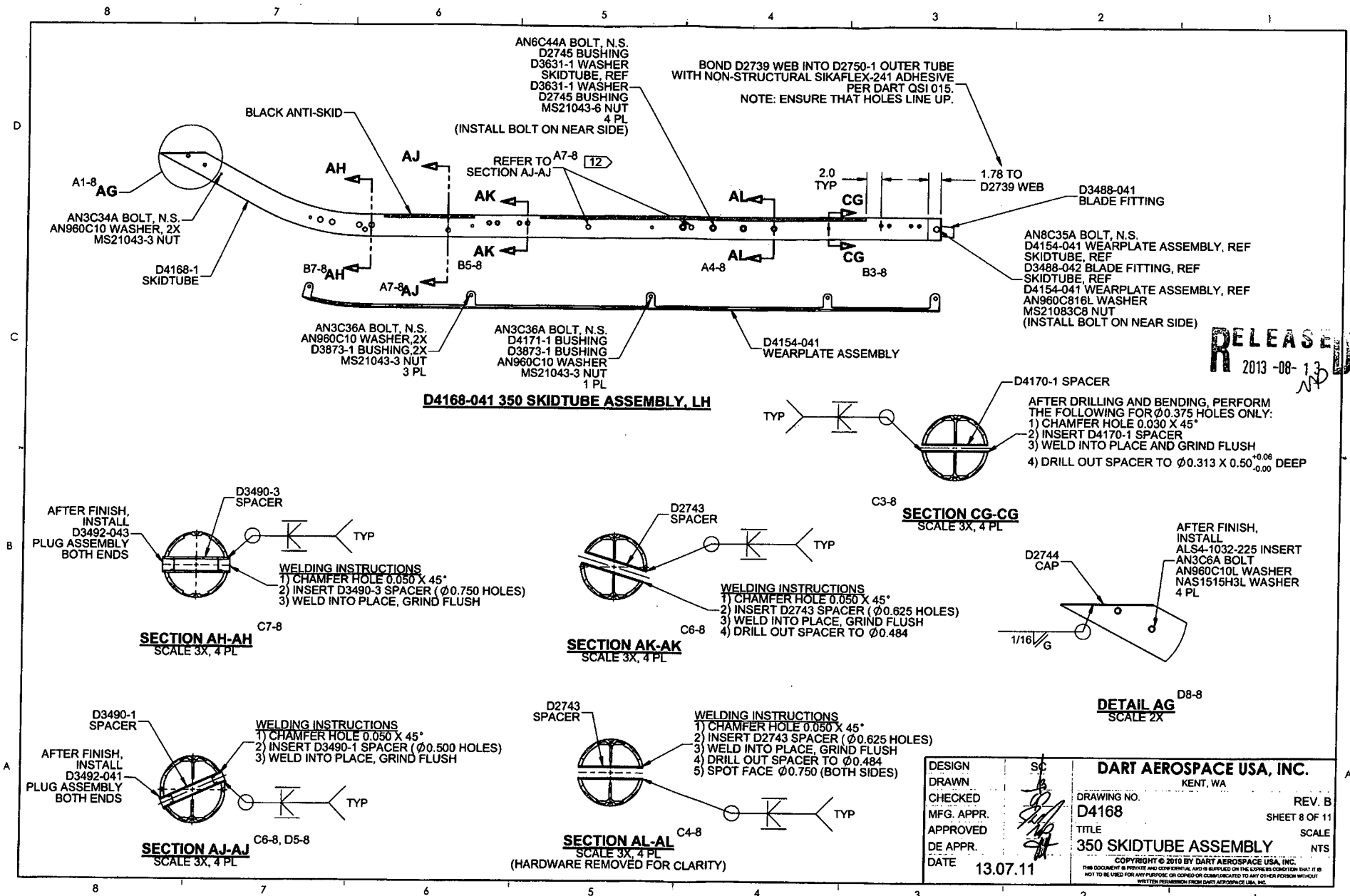


SECTION AF-AF
B4-7
SCALE 3X, 4 PL

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DATE	13.07.11	

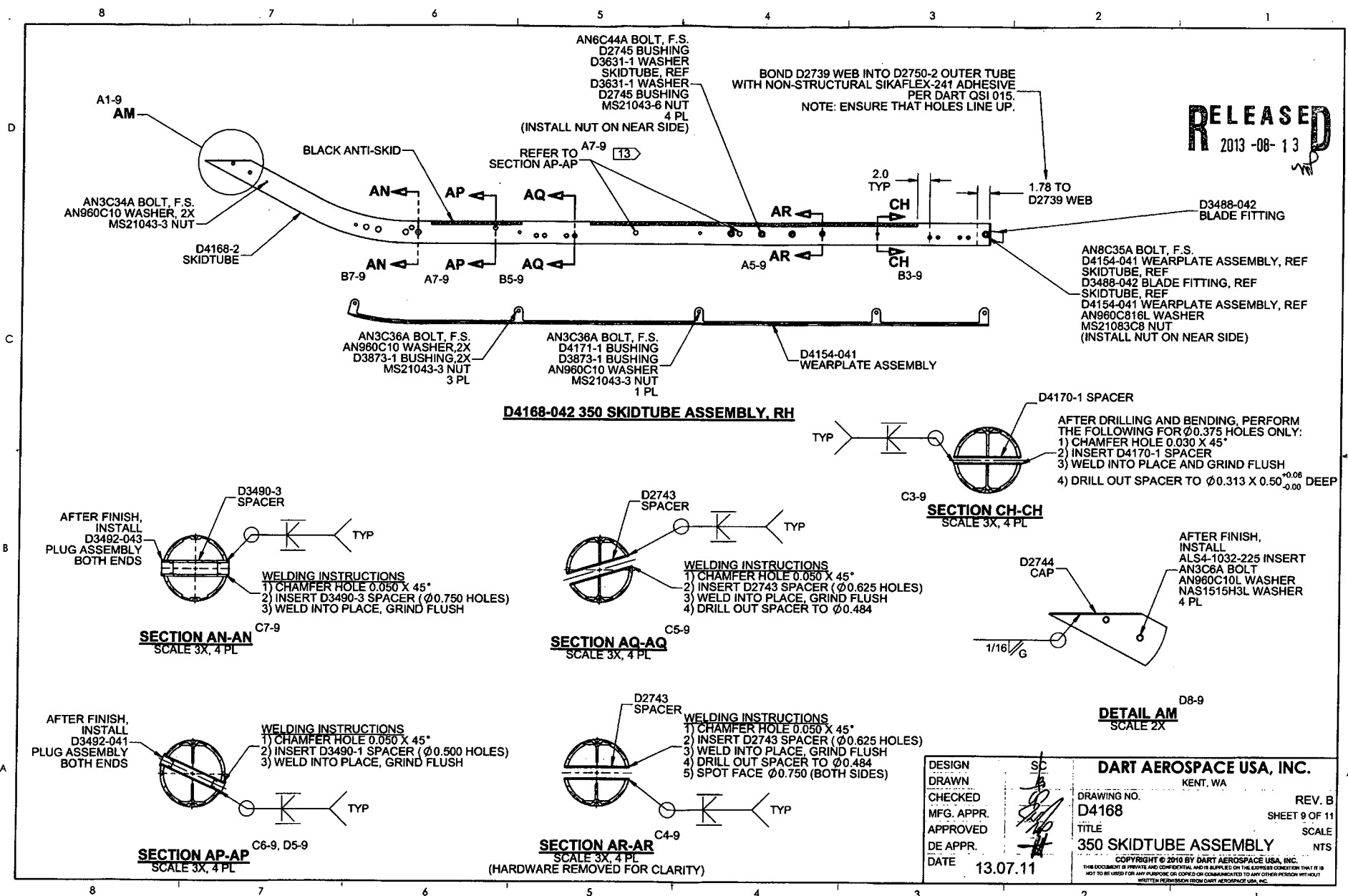
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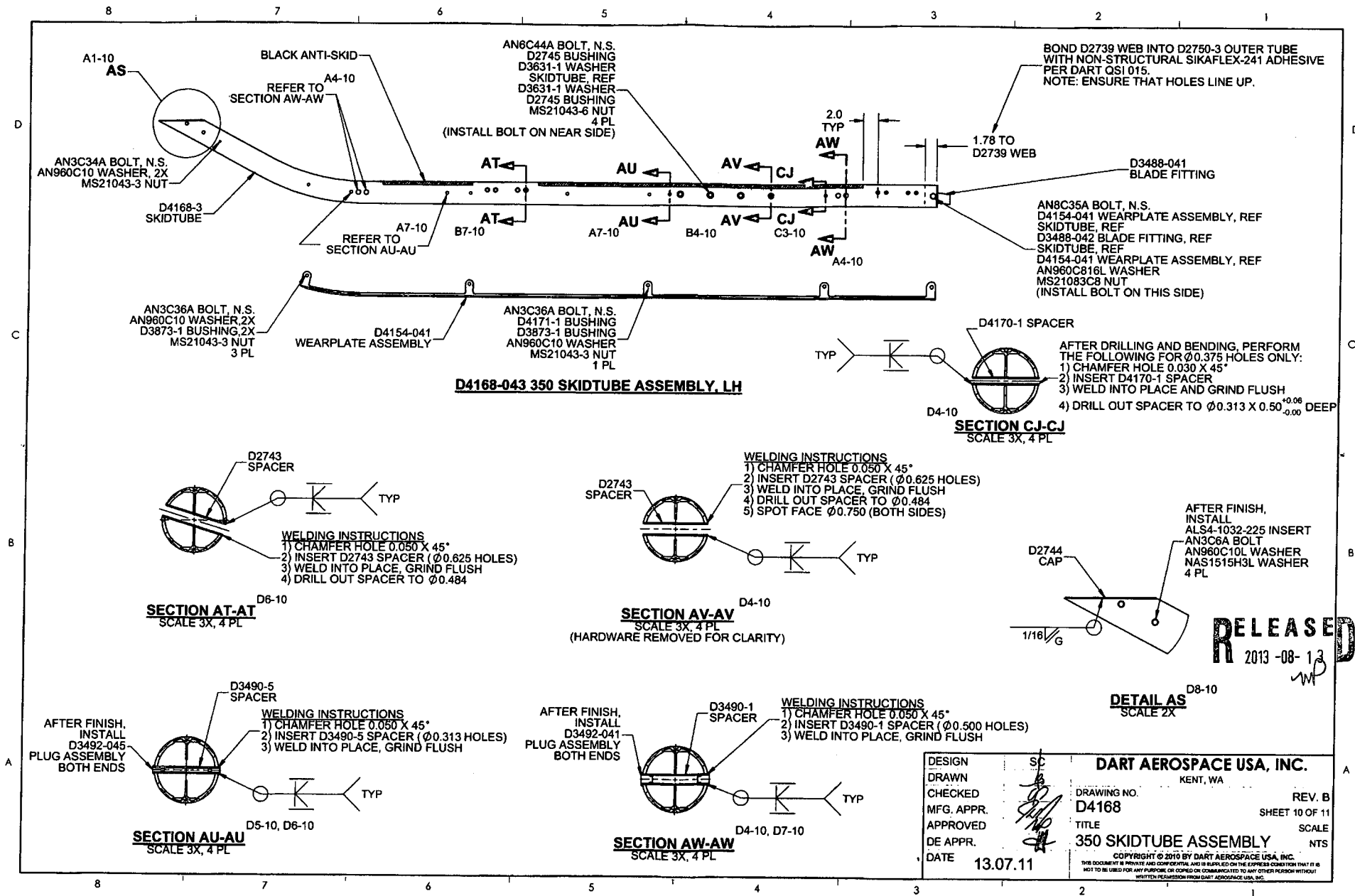


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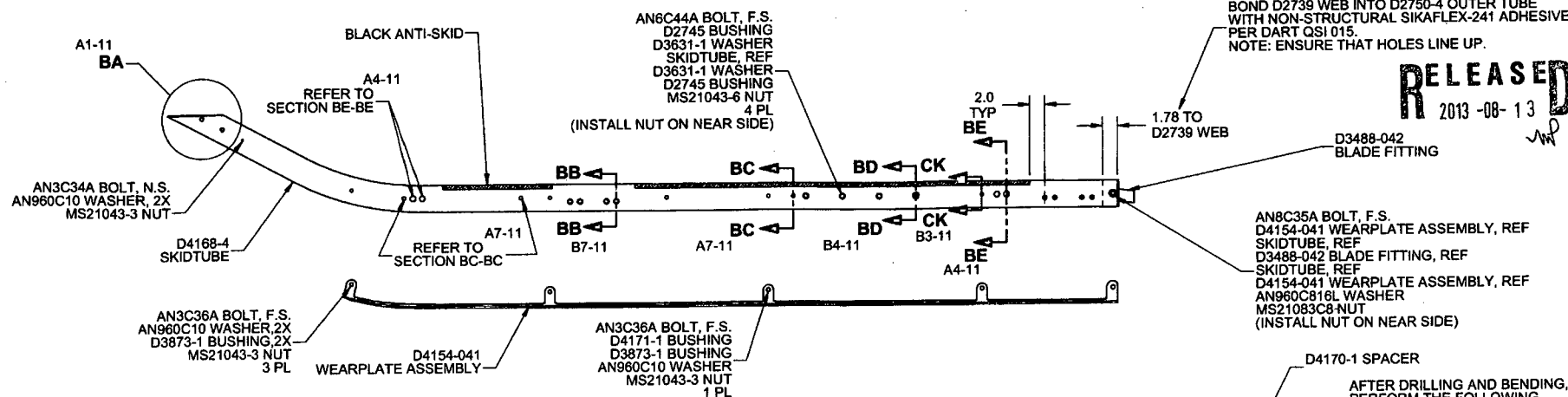
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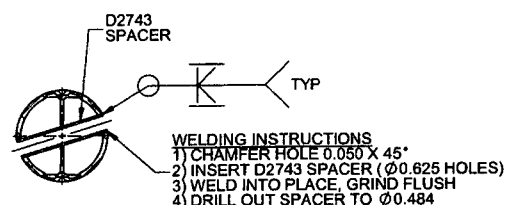


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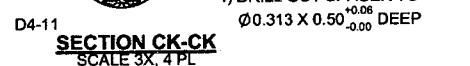
D4168-044 350 SKIDTUBE ASSEMBLY, RH



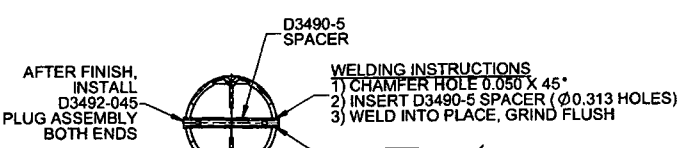
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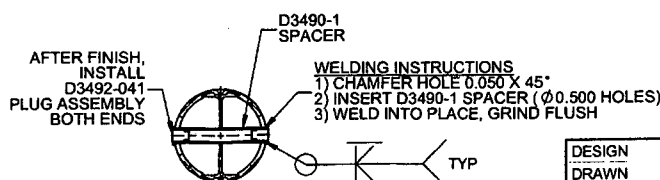
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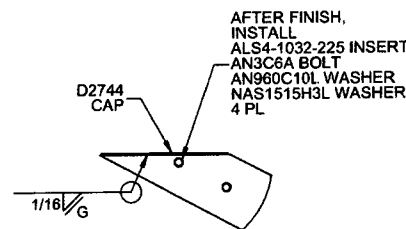
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SCALE 3X, 4 PL



SECTION BC-BC
SCALE 3X, 4 PL



SECTION BE-BE
SCALE 3X, 4 PL



DETAIL BA
SCALE 2X

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